

REMARKS

Status of Claims:

Claims 1-7 are pending. Claims 1-7 are rejected.

Drawings:

Pursuant to the Examiner's approval of the proposed drawing corrections filed October 7, 2002, Applicant submits herewith corrected formal drawings of Figs. 2, 3(a), 3(b), 4(a), 4(b), 4(c), 4(d), 4(e), 5(a), 5(b), 6, 7(a), 7(b) and 7(c) under separate cover.

35 U.S.C. §112:

The Examiner rejects claims 1-7 under 35 U.S.C. §112, second paragraph, as allegedly being indefinite. As noted in the Office Action, the Examiner states that the "term 'chamfered' in claims 1-7 is used by the claim to mean 'rounded,' while the accepted meaning is 'beveled.'" Accordingly, Applicant hereby amends the claims to recite "rounded" in lieu of "chamfered." Therefore, the Examiner is respectfully requested to withdraw the rejection under 35 U.S.C. §112, second paragraph.

35 U.S.C. §103:

The Examiner rejects claims 1-7 under 35 U.S.C. §103(a) as being unpatentable over Applicant's Admitted Prior Art (AAPA) in view of Fromm et al. (U.S. Pat. No. 5,160,130 [hereinafter "Fromm"]). Applicant respectfully traverses this rejection in view of the following remarks.

To establish a *prima facie* case of obviousness, the Examiner must show that the prior art references, when combined, teach or suggest all of the claimed features. The combination of the AAPA and Fromm fails to teach or suggest all of the claimed features.

The Examiner's alleged motivation for providing chamfered sections on the device of Fromm is to "eliminate sharp edges¹ that may come into contact with the sheet, in order to reduce the possibility of damage to the sheet." Fromm does attempt to reduce damage to the sheets, but this damage is not the same damage the present invention prevents. Instead, Fromm focuses on "lead-edge nicks, bending of the stripper finger, and damage to the fuser roll." (See col. 3, lines 15-20.) However, the present invention focuses on preventing a material of the toner sheet from being rubbed and shaved by a body surface of the removing claw 64 and the corners of both ends of a rectangle that forms the cross section of the body of the claw. Such shaving is due to a high pressure between the toner sheet and a face of the removing claw. As one skilled in the art would appreciate, pressure is reduced as surface area is increased. This is one of the basic premises of the invention. The rounding of the corners of both ends of an upper side of the cross-sectional rectangle (as described in the claims) increases surface area, and reduces pressure. (See, for example, lines 22-29 on page 21 of the instant specification.)

Fromm does not teach or even suggest that pressure on an equivalent face of the finger stripper 100 is a problem. Instead Fromm teaches to have a:

"...tapered portion 108 defined by an area from a chord 112 through a portion of the arc formed by edge 106, the chord being perpendicular with the axis of symmetry of the arc. As can be seen in FIG. 3A, the tapered portion 108 forms a linearly decreasing thickness between surfaces 102 and 104 from the chord 112 to the tip 110."

¹ Applicant respectfully points out to the Examiner that Fromm actually teaches to provide a more sharpened edge.

See col. 6, lines 48-54 of Fromm. Thus, Fromm teaches having a tapered tip 108 with a decreasing thickness. (See also Fig. 3B.) This design is to eliminate “edge nicks.” An edge nick is likely to occur if “the tip of a stripper finger engages the edge of a sheet at a point more than half the thickness of the sheet from the fuser roll surface because the tip of the stripper finger will fold the sheet as opposed to smoothly lifting it.” (Emphasis added.) (See col. 7, lines 6-11 of Fromm.) Accordingly, Fromm focuses on changing the location of where a force is applied to an end edge of a sheet, by making the tip sharper, so as to reduce a folding effect. Fromm does not focus on damage to a sheet as a result of pressure between body face of a removing claw and a piece of material being removed. These are two different problems that are addressed in different ways. One involves a pressure that causes a fold, and the other involves pressure that causes a shaving. Moreover, the present invention focuses on having more surface area in order to reduce stress (see page 21, lines 26-29 of the instant specification), while Fromm focuses on having less surface area at the area of contact (tapered tip) so as to be able to lift the sheet as opposed to pushing it and causing it to fold.

Accordingly, if one skilled in the art were apprised of the AAPA and Fromm, then, at best, that person may have tapered a nose portion of the AAPA in accordance with the dimensions described in Fromm. However, that person would not have been taught to provide a removing claw having a rectangular cross section with a height reduced toward a tip, where both ends of an upper side of the rectangle are rounded, and a non-curvilinear portion provided in-between, as in amended apparatus claims 1 and 4, and as used in method claim 7. Thus, even if the references were to be combined, they would not teach all the features of the present invention, such that a *prima facie* case of obviousness has not been made. (See MPEP §2143.)

In regard to claims 2 and 5, the Examiner submits that “it is obvious to modify a particular feature of a device to a specific degree according to the particular operation at hand.” Applicant respectfully submits that this is not the test for obviousness. In contradistinction, the mere

fact that a reference can be modified does not make the resultant modification obvious unless the prior art also suggests the desirability of the modifications. See *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). None of the prior art references teaches or suggests having the claimed rounded feature with a curvature of $r = 1$ [mm] or more and an upper face of a tip with a face pressure of 1 [KPa] or less received from a recording medium being removed.

In addition, it appears that the Examiner is asserting that the features of claims 2 and 5 could have been obtained through experimentation. However, “[a] particular parameter must first be recognized as a result-effective variable...before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation.” MPEP §2144.05(b). The grounds of rejection do not address this threshold inquiry at all. Indeed, none of the art being relied upon appears to indicate that a particular radius and face pressure parameter are recognized as having an effect.

Consequently, Applicant respectfully submits that claims 1, 4 and 7 are patentable over the AAPA in view of Fromm, and the rejection of claims 1, 4 and 7 under 35 U.S.C. §103(a) should be withdrawn. Dependent claims 2-3, 5 and 6 also are patentable over these references, at least by virtue of their respective dependencies on independent claims 1 and 4, in addition to their individual recitations.

In view of the preceding amendments and remarks, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby earnestly solicited. If there are any points remaining in issue that the Examiner feels may be best resolved through a personal or telephonic interview, he is kindly requested to contact the undersigned attorney at the local telephone number listed below.


AMENDMENT UNDER 37 C.F.R. §1.116
U.S. SERIAL NO. 09/758,203

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The USPTO is directed and authorized to charge all required fees (except the Issue Fee and/or the Publication Fee) to our Deposit Account No. 19-4880. Please also credit any overpayment to said Deposit Account.

Respectfully submitted,

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860


Daniel V. Williams
Registration No. 45,221

WASHINGTON OFFICE



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PATENT TRADEMARK OFFICE

Date: May 1, 2003

APPENDIX
MARKED VERSION SHOWING CHANGES MADE

IN THE CLAIMS:

Please enter the following amended claims:

1. (Twice Amended) A recording apparatus comprising:
removing means for removing a recording medium from the medium fixing member, said recording medium being fixed to a medium fixing member such that an active surface of the recording medium is facing to the medium fixing member,
wherein the removing means has a removing claw, the removing claw having a rectangular cross section with a height reduced toward a tip, and a distal end portion comprising both ends of an upper side of the rectangle being chamfered, which are rounded and have a non-curvilinear portion provided in-between.
2. (Amended) The recording apparatus according to claim 1, wherein the ~~removing claw~~ has the chamfered rounded portion with has a radius of curvature of $r = 1$ [mm] or more and an upper face of the tip ~~with~~ has a face pressure of 1 [KPa] or less received from the recording medium being removed.
4. (Amended) A removing claw for removing a toner sheet or an image receiving sheet from a medium fixing member, wherein a cross section has a rectangle with a height reduced toward a tip, and a distal end portion comprising both ends of an upper side of the rectangle, which are chamfered rounded and have a non-curvilinear portion provided in-between.

5. (Amended) The removing claw according to claim 4, wherein the ~~chamfered~~ rounded portion has a radius of curvature of $r = 1$ [mm] or more and an upper face of the tip has a face pressure of 1 [KPa] or less received from the recording medium being removed.

7. (Twice Amended) A recording method utilizing a recording apparatus having a removing claw comprising:

fixing the image receiving sheet onto the medium fixing member, said image receiving sheet having an image receiving layer to receive an image of a recorded image;

fixing the toner sheet onto the image receiving sheet; and

removing the toner sheet or the image receiving sheet from the medium fixing member using a removing claw, the removing claw having a rectangular cross section with a height reduced toward a tip, and a distal end portion comprising both ends of an upper side of the rectangle being ~~chamfered~~, which are rounded and have a non-curvilinear portion provided in-between, such that the toner sheet or the image receiving sheet applies a pressure to an upper face of the removing claw including the ~~chamfered~~ rounded ends of the upper side upon removal.